

REMARKS

Claims 1-6 are pending in this application. By this Amendment, claims 1, 2, 4 and 5 are amended. The amendments introduce no new matter.

Reconsideration based on the above amendments and the following remarks is respectfully requested.

The Office Action rejects claims 1-6 under 35 U.S.C. §102(b) over Ella, US 5,872,493. This rejection is respectfully traversed.

Regarding independent claim 1, Applicants assert that Ella does not disclose a film bulk acoustic resonator filter having at least a plurality of film bulk acoustic resonators each having a top electrode, a bottom electrode, and a piezoelectric layer sandwiched between the top and bottom electrodes, wherein the piezoelectric layer is a single layer and is not divided into separate layers for the respective film bulk acoustic resonators, and the top electrodes of at least two of the film bulk acoustic resonators are connected to associated circuitry, as recited in independent claim 1.

To the contrary, Ella teaches a plurality of piezoelectric layers 9 separated from each other for respective bulk acoustic resonators. See, for example, Ella Figs. 7a and 8a. Accordingly, Applicants submit that because Ella does not teach a piezoelectric layer in a single layer, and not divided into separate layers for respective film bulk acoustic resonators, Ella does not disclose all features of independent claim 1.

Regarding dependent claim 2, Applicants assert that Ella fails to disclose at least a film bulk acoustic resonator filter having a plurality of film bulk acoustic resonators having at least a piezoelectric layer in a single layer and not divided into separate layers, the resonator filter also having a transmission line of a coplanar waveguide structure, the transmission line being disposed on the single piezoelectric layer and having two ground lines and a signal line disposed between the ground lines, wherein each of the top electrodes of the at least two of

the film bulk acoustic resonators connected with the associated circuitry forms part of the transmission line of the coplanar waveguide structure, as recited in dependent claim 2.

Instead, Ella teaches a plurality of piezoelectric layers 9 separated from each other for respective bulk acoustic resonators, as discussed above. Further, Ella fails to disclose the film bulk acoustic resonator filter having a transmission line of a coplanar waveguide structure. Further, Ella fails to teach the transmission line of the coplanar waveguide structure having two ground lines and a signal line disposed between the ground lines. Ella is silent on the film bulk acoustic resonator filter having a transmission line of a coplanar waveguide structure. Ella is silent on the transmission line being disposed on the single piezoelectric layer. Ella is silent on the transmission line of the coplanar waveguide structure having two ground lines and a signal line disposed between the ground lines. Ella is silent on each of the top electrodes of the at least two of the film bulk acoustic resonators connected to the associated circuitry forming part of the transmission line of the coplanar waveguide structure.

For at least these reasons, Applicants assert that Ella fails to disclose all features of dependent claim 2.

Regarding dependent claim 3, Applicants submit that claim 3 is dependent on claim 1 and inherits all features thereof. Accordingly, Applicants submit that claim 1 is patentable, and claim 3 is patentable at least for its dependence on claim 1, as well as for the additional features it recites.

Regarding independent claim 4, Applicants assert that Ella fails to disclose at least a ladder-type film bulk acoustic resonator filter having at least two series resonators and at least two parallel resonators, each made of a film bulk acoustic resonator having a top electrode, a bottom electrode, and a piezoelectric layer sandwiched between the top and bottom electrodes, wherein the piezoelectric layer is a single layer and is not divided into separate

layers for the respective film bulk acoustic resonators, and the top electrodes of two of the series resonators are connected to associated circuitry, as recited in independent claim 4.

Instead, as discussed above with reference to independent claim 1, Ella teaches a plurality of piezoelectric layers 9 separated from each other for respective bulk acoustic resonators. For at least this reason, Applicants submit that Ella fails to disclose all elements of independent claim 4.

Regarding dependent claim 5, Applicants submit that Ella fails to disclose at least a ladder-type film bulk acoustic resonator filter having at least two series resonators and at least two parallel resonators, each made of a film bulk acoustic resonator having a top electrode, a bottom electrode, and a piezoelectric layer sandwiched between the top and bottom electrodes, wherein the piezoelectric layer is a single layer and is not divided into separate layers for the respective film bulk acoustic resonators, and the top electrodes of two of the series resonators are connected to associated circuitry, and further having a transmission line of a coplanar waveguide structure, the transmission line being disposed on the single piezoelectric layer and having two ground lines and a signal line disposed between the ground lines, wherein each of the top electrodes of the two of the series resonators connected to the associated circuitry forms part of the signal line of the transmission line of the coplanar waveguide structure, as recited in dependent claim 5.

Instead, as discussed above, Ella fails to disclose the piezoelectric layer is a single layer and is not divided into separate layers for the respective film bulk acoustic resonators; Ella fails to disclose the film bulk acoustic resonator filter further comprising a transmission line of a coplanar waveguide structure; Ella fails to disclose the transmission line of the coplanar waveguide structure being disposed on the single piezoelectric layer; Ella fails to disclose the transmission line of the coplanar waveguide structure having two ground lines and a signal line disposed between the ground lines; and Ella fails to disclose each of the top

electrodes of the two of the series resonators connected to the associated circuitry forming part of the signal line of the transmission line of the coplanar waveguide structure.

For at least these reasons, Applicants submit that Ella fails to disclose all features of claim 5. Further, Applicants submit that claim 4 is patentable, and claim 5 inherits all features of claim 4, and is patentable for at least that reason, as well as for the additional features it recites.

Regarding claim 6, Applicants submit that claim 6 is dependent on claim 4, and that claim 4 is patentable. Applicants submit that claim 6 inherits all features of claim 4, and is patentable for at least this reason, as well as for the additional features it recites.

Accordingly, reconsideration and withdrawal of the rejections of claims 1-6 under 35 U.S.C. §102(b) over Ella is respectfully requested.

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-6 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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